

Internationalization of regions: The role of public policy

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Abstract

The main purpose of this article is to build on previous efforts to investigate the effects of Outward-FDI promotion measures taken by governments and levels of outward foreign investment at regional level. We examine regional levels of outward FDI within Italy, a country with marketed regional asymmetries. Within the European arena, the heterogeneity of socio-economic conditions among Italian regions is a clear example of intra-border imbalances. In fact, the different growth rates characterizing the various areas of Italy are far from being an exception in the Union, where diversity across member states is a reflection of domestic socio-economic disparities strongly concentrated in space and reproduced over time. The study allows also to investigate and to compare different types of incentives (financial and non-financial). Finally it provides evidences on the non-policy factors that determine the spatial evolution of O-FDI projects, a theme deserving careful and close attention.

For the empirical model we use information on the population of Italian firms that received incentives from 2000-2007. Data, aggregated at the regional level, refers to the major public tools implemented to promote Italian companies' internationalization.

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1. INTRODUCTION¹

There is a consensus among academics, policy makers and practitioners that as a result of the intensifying globalization of the world's economies, internationalization of domestic companies has become increasingly important for the growth and long-term welfare of regions and countries around the world (Kitson et al., 2004; Kokko, 2006; Lipsey, 2002; UNCTAD, 2010)¹.

Behind the global scene one verifies that the sources of outward FDI are still much concentrated in few regions around the globe (UNCTAD, 2010), and that, within countries, many regions did not adapt easily to the new paradigm with their firms showing low levels of internationalization. Data at the country level for some of the largest European economies (e.g. in Spain see DataIn-
vex, and Boletim Economico 2002, for Italy see Basile et al., 2003, and for the UK see O'Farrel et al., 1996) clearly reveal the asymmetries between sub-national regions regarding the international activities of their firms. This is all the more worrying insofar as global processes and challenges are likely to strengthen the gap between regions. The idea of a "Europe of regions" has gained momentum, thus reinforcing the need of knowing more about geographical units smaller than the national states. However, a substantial body of research has sought to identify and explain international flows of capital investment, with relatively little effort expended on the sub-national distribution of this investment.

Accordingly to recent studies on the industrial districts tradition, regional international competitiveness and determinants of internationalization, the region's likelihood of achieving international success depends to a large extent on structural and behavioural features of the regions themselves, which evolve slowly over time (Basile et al., 2003; Cooke and Morgan, 1998;

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Mariotti et al., 2008). These characteristics impact on the region level of internationalization and on its' firms degree of involvement in international activities (Greenaway et al., 2004; Sousa et al., 2000; Yli-Renko et al., 2002; Westlund and Bolton, 2003).

Against this background, national governments have designed programs to promote the internationalization process of their firms and, consequently, of their regions. In Europe, export promotion has been a prominent element in European government policies for a long time. In several countries, government support expanded to an active promotion of outward direct investments by domestic firms (European commission 2003). Financial incentives and non financial measures, in the form of information provision and technical assistance, have been used by home governments to promote or otherwise influence outward foreign direct investments (FDI) (Boletim Economico 2002; Brewer, 1993, 1997; Duran and Ubeda, 2001; Sarmah 2003; Te Velde 2007).

If, on the one hand, the extensive evidence on the role and efficiency of government export promotion programs (e.g., Bernard and Jensen, 2001; Moini, 1998; Seringhaus and Botschen, 1991; Spence, 2003; Wilkinson and Brouthers, 2000) contributed greatly to inform policy makers on the success and success factors of the policy measures (European commission 2007b), on the other hand, very few studies have empirically addressed government programs explicitly designed to promote more demanding forms of internationalization such as outward investment.

Even if market failures exist that may justify government intervention, the effects of the promotion of private investments using public resources needs to be further explored (Guisinger, 1992; Lim 1995; Loree and Guisinger, 1995, Schalk and Untiedt, 2000; Wallsten, 2000).

The main purpose of this article is to build on previous efforts to investigate the effects of O-FDI promotion measures taken by governments and levels of outward foreign investment at regional level. We examine regional levels of outward FDI within Italy, a country with marketed regional asymmetries. Within the European arena, the heterogeneity of socio-economic conditions among

Italian regions is a clear example of intra-border imbalances. In fact, the different growth rates characterizing the various areas of Italy are far from being an exception in the Union, where diversity across member states is a reflection of domestic socio-economic disparities strongly concentrated in space and reproduced over time (Kitson et al., 2004; Saxenian, 1994).

The study allows also to investigate and to compare different types of incentives (financial and non-financial). Finally it provides evidences on the non-policy factors that determine the spatial evolution of O-FDI projects, a theme deserving careful and close attention.

For the empirical model we use information on the population of Italian firms that received incentives from 2000-2007. Data, aggregated at the regional level, refers to the major public tools implemented to promote Italian companies' internationalization.

The remainder of this paper is organised as follows. Section 2 discusses the determinants of the internationalization of the regions. Section 3 develops the model developed to investigate the effect of several O-FDI promotion measures on regional level of internationalization. The data are reported in Section 4. Section 5 shows our econometric findings, while the last section concludes with summary remarks, policy implications and suggestions for future research.

2. Determinants of the internationalization of regions

Incentives for foreign investments are provided by industrial policies, which will also reflect on the level of internationalization of the region as a whole. Export promotion has been a prominent element in European government policies for a long time, and in several countries, government support expanded to an active promotion of outward direct investments among domestic firms (European commission, 2003). Financial incentives and non financial measures, in the form of information provision and technical assistance, have been used by governments to promote or otherwise influence outward foreign direct investments (FDI) (Brewer, 1993, 1997; Duran and

Ubeda, 2001; Sarmah, 2003; Te Velde, 2007). However, little is known about whether (and how) government incentives to outward FDI indeed promote firms' internationalization and whether it ultimately enhances regions' level of internationalization.

Internationalization is a process demanding substantial capabilities and resources, with the access to capital being a critical aspect (Westhead, Wright and Ucbasaran, 2001). Firms, SMEs in particular, face higher difficulties in the access to capital to finance international activities (European Commission, 2003; European Commission, 2009; Maeseneire and Claeys, 2007).² In face of financial constraints for foreign investments, firms may not be in the right condition to make investments, being unable to properly exploit their initiatives or make the best investment decisions, which may severely hurt their survival and growth potential (Winker, 1999; Maeseneire and Claeys, 2007).

Financial envelopes, loans and equity participation for investment projects in foreign countries can be implemented as proactive-external measures³ (Morgan and Katsikeas, 1997) to the above overcome market distortions and to reduce the costs of the investment and uncertainties for foreign investors (European commission, 2003; Sarmah, 2003; Te Velde, 2006; UNCTAD, 2001) related to the foreign unfamiliar context. Through government financial support firms have access to capital with a lower cost, and no collateral or guarantees are required. Moreover, the incentive may have an indirect effect, as it may convey information about the quality of the firm both to the equity holders of the firm and to other potential investors facilitating access to private financing (Lerner, 1999). This reduces informational asymmetries and lowers the cost of internal and external funds, especially for firms more dependent on external finance (e.g., SMEs). Obtain-

² The issues in attracting capital for FDI are equivalent to those experienced by firms for financing an R&D project (Maeseneire and Claeys, 2007).

³ Access to the incentive is associated with the firm's aggressive behavior and deliberate search for market opportunities overseas, but the origin of the stimulus is the external environment.

ing sufficient financing serves as a cushion against unforeseen setbacks and may allow firms to develop (or acquire⁴) organizational, managerial, marketing capabilities and production capacity to better explore and exploit the broad range of foreign investment activities (Maeseneire and Claeys, 2007), which is reflected in their capacity to produce, sell, and make decisions.

In spite of the potential benefits, financial support may also give rise to allocative inefficiencies in the sense that a firm that is granted support may overinvest. Supported firms may also not be as forced to organize themselves to improve performance as their non-supported counterparts (see Bergström, 2000). There are also doubts regarding the efficiency of the allocation of the incentives; for example, resources might be transferred to less productive firms or to firms with no financial constraints. Government funding may crowd out potentially profitable businesses of private financiers, distorting the private sector's investment incentives (Mosselman and Prince, 2004).

The policy actions include also non-financial incentives (e.g. provision of information, technical assistance, feasibility studies). These are approached in much the same way: they seek to relax the limits due to bounded resources and capabilities in a company embarking on an internationalization process, especially when a large geographical, cultural and institutional distance exists between the home and the host country. Focused information and technical assistance are expected to reduce contextualisation costs and consequently to increase the odds in favour of success (Duran and Ubeda, 2001). Duran and Ubeda (2001) test the efficiency of Expotecnia, a programme of fairs showing products in various countries with a view to increasing exports and direct investment launched in the 1980s by the Spanish Institute for Foreign Trade. They tested if the firms' probability of investing abroad changed after participating in this programme. Compa-

⁴ For example, the access to funding increases a firm's capacity to hire or purchase of external consulting and training.

nies participating in these Expotecnia missions receive generic and specific information about the country and suitable arrangement are made for making contacts with local businessman. They demonstrated that the efficiency of the Expotecnia mission in affecting the propensity to invest depends on the degree of internationalization of the company: is low for companies having only exporting experience; medium for companies that have sales subsidiaries abroad; and high for companies with production facilities abroad.

Based on the arguments exposed above, we raise the hypothesis that financial and non financial incentives to outward FDI positively impacted on firms internationalization patterns and consequently on the region degree of internationalization.

However, several characteristics of the home-region may play an important role in defining the firms' participation in international markets and we need to account carefully for them. Accordingly to recent studies the region's likelihood of achieving international success depends to a large extent on structural and behavioural features of the regions themselves, which evolve slowly over time (Basile et al., 2003; Mariotti et al., 2008). These characteristics impact on the region level of internationalization and on its' firms degree of involvement in international activities (Greenaway et al., 2004; Sousa et al., 2000).

As far as structural determinants are concerned, the results from studies on the home country determinants of outward FDI, the market size and/or the degree of development of the regional economy may well affect the degree of involvement of the region in international markets (Olibe and Crumley, 1997). The sectoral composition of the region is another aspects that may affect the region' international presence. Technologically advanced sectors, for example, are generally reported in the literature as being more involved in internationalization processes (e.g. Hatzichronoglou, 1999). Otherwise, some countries (Like Italy with the Made in Italy sectors)

reveal international comparative advantage in a number of traditional sectors (see Mariotti et al., 2008).

Otherwise, the degree of internationalization of the regions is likely to depend on the presence of leader firms. They are more likely to develop international production networks and implement multinational strategies. The presence of leader firms may increase the likelihood that the district will expand in terms of international involvement. Large firms contribute to generate innovation, enlarge and open markets and contribute to human capital spillovers. They may induce linked local firms to grow abroad, but they may also may undertake their internationalization efforts by acting as a protective umbrella and secure market. In this case a substitution effect between foreign investments made by leader firms and by other firms in the region (Mariotti et al., 2008).

From a complementary perspective, theoretical and empirical studies demonstrate that the presence of multinational firms might provide a bridge to foreign markets for firms in the same region, as it brings in a variety of skills via both horizontal and vertical spillovers to local firms. A context characterised by a rich set of relationships encourages exchange of knowledge and information. This may encourage firms to expand their activities internationally. They may otherwise appropriate local knowledge and expertise generating crowding-out or competition effect causing geographical close firms to decline. In this case, the impact of foreign presence on the region international growth would be negative.

Internationalization of regions also depends on the strategic behaviour of local firms. Innovation gives rise to proprietary advantages which enable firms to grow abroad. In general, firms that invest in knowledge creation are more likely to develop learning skills that are useful to realize a successful growth in foreign markets (Kafouros et al.,). In this line of reasoning, we

may expect regions that invest more in innovation to be better able to exploit international opportunities.

Activities on foreign markets by local firms favour accumulation of experience, which reduces the information costs needed to overcome the liability of foreignness (Zaheer, 1993). Market relationships established through exports help to create conditions for firms to undertake major commitments in foreign markets. In this sense, FDI complements or substitutes for previous export relationships. Therefore, while previous high export intensity should increase the likelihood that regions undertake high levels of FDI, the net effect cannot be precisely determined. The existence of other exporting firms in the same region significantly increases the probability of international markets entry (Greenaway and Kneller, 2007). By means of repeated interactions firms gain access to various sources of knowledge (about opportunities, experimental; referral), and increases firms' propensity to undertake riskier choices. It provides opportunity for tacit and valuable knowledge about international business practices.

3. EMPIRICAL ANALYSIS

3.1. Methodology and model

We apply a methodology that allows us to identify the causal relationship between the incentive and its outcome (i.e., the regional intensity of internationalization), controlling for other possible determinants of the outcome itself (Bartik and Bingham, 1995).

Our dependent variable is the degree of internationalization of the region measured through FDI, which represents part of a more generally strategy for internationalization of production. Moreover, FDI has been acknowledged more often to be complementary rather than substitute for other forms of internationalization. For each Italian region it has been measured the stock of FDI

projects at time t in terms of the number of foreign investments (Model 1) and in term of foreign investment projects' sales (Model 2).

The uniqueness of our data in fact, allows us to consider specific data project by project of FDI.

The evaluation of public policy then requires a model that links the target variables to the policy tools, taking inconsideration other non-policy determinants², in a causal relationship (Duran and Ubeda, 2001). To this end, the present analysis considers home region policy and non-policy factors likely to affect the outward foreign investment of the firms of the region.

By policy related variables we considered instruments launched with the aim to promote internationalization of firms into foreign markets.

The regression for the outcome (i.e., degree of internationalization) as a function of the policy instruments (P) and other observable non-policy (NP) explanatory variables (i.e., structural and behavioural variables):

$$INT_{r,t} = f(P_{r,t}, NP_{r,t})$$

where the subscript r refers to the region and the subscript t to time and where

The estimates of the panel data are conducted using a random effects approach.

The model was run for two different dependent variables,

(Model 1) Degree_Int_turnover _{r,t} is the level of internationalization measured as: total turnover of FDI projects on total turnover of firms, in region r and year t .

(Model 2) Degree_Int_number _{r,t} is the level of internationalization measured as: the total number of FDI projects on total number of firms, in regions r and year t .

where the subscript r refers to the region ($r = 1, \dots, 20$) and t to time ($t = 2003, \dots, 2007$). Given 20 Italian regions and 5 years, the data set provides us with a total of 100 observations.

As explanatory variables we considered first the policy variables we wanted to test. Financial support, such as venture capital funds, loans and equity participation launched for promoting investment projects in foreign countries. We also account for non-financial support measures, namely information provision and technical assistance through regional organised offices and feasibility studies.

Italy has been traditionally active in promoting both outward and inward FDI and started to invest earlier than other European Union countries (UNCTAD, 1998). Between 2000 and 2006, the Italian government spent more than 1,000 million euro to promote outward investment and export, with about three percent a year of public funds to be used for industrial policy. In particular, since the late 1990s, the major public instruments in support of outward internationalization have been the acquisition of equity in direct investments abroad by Italian Firms (Law 100/90; Law Decree 143/98; Law 35/05; Law 19/91); financial support to feasibility studies; training programmes and technical assistance for exports and direct investment abroad (Law Decree 143/98; Law 35/05; Ministerial Decree 136/00); the provision of financial resources for the creation of permanent marketing structures abroad (Law 394/81) and participation in international tenders (Law 304/90); the stabilisation of interest rates for export credits and for capital goods; interest rate support on bank financing of the Italian share of investments in foreign companies in which public agencies have a stake (Law Decree 143/98; Law 100/90). Two agencies (Simest³ and Finest⁴) allocate and manage venture capital funds in order to provide additional support to the investments in strategic non-EU markets, scout for partners and investment opportunities, and give technical and financial assistance and advice in the preparation and implementation of projects.

The largest portion of financial incentives is granted by the central government; nevertheless, a fraction of the yearly budget is allocated by regional administrations.

The regional distribution of the investment incentive rate (i.e., public incentives / FDIs) and the level of investment incentives in 2006 (i.e., in millions of euro per year) can be seen in Figure 1.

“Figure 1 goes about here”

The public intervention is much more significant for firms in Northern and Central Italy than in Southern Italy, while the rate is highest in Southern Italy and lowest in Northern Italy. There are also significant regional differences in the level of incentives. The level is highest in Lombardia and Emilia-Romagna (68.6 and 50.5 million euros per year, respectively). Notice also that the level is relatively small in Sicilia, Calabria and Basilicata (8.6, 1.0 and 8.4 million per year, respectively), even though its incentive rate is very high (15.3%, 33.3% and 22.2%, respectively).

As far the non-policy determinants considered in the model, they refer to the conceptual framework described in section 2. We included both structural and behavioural variables. Structural variables includes a measure of economic development, the presence of large firms within the region, and the presence of foreign-owned multinational corporations.

Behavioural determinants includes region' firms experience in international markets and innovation patterns.

The role of timing in estimating impacts is very important (Venetoklis, 2001). A fundamental assumption that is implicitly accepted in all causality arguments is that public intervention precedes the dependent variable in occurrence. A time lag between the public intervention and the measurement of expected impacts assures that causal relationships have time to evolve. In many cases, it is not clear when the effects of an incentive begin to unfold (Venetoklis, 2001). For example, firms expecting to receive a subsidy could anticipate their investment plans before

the incentive is disbursed. As in the observed financial incentive allocations, public intervention often overlaps with the investment implementation (e.g., equity participation and venture capital funds), we assume a null time lag between financial incentive allocation and investment, while a time lag equal to one for the provision of information and the technical assistance. Moreover the rates of change of structural and behavioural variables are typically much slower those that of pure policy variables, consequently, most non-policy variables are based on the Firm Census carried out by the Italian national statistical service (ISTAT) in 2001.

Hence, the two models accounting for lagged variables take the following form:

$$P_{r,t} = \text{Equity_participation}_{r,t} \text{ Venture_capital_funds}_{r,t} \text{ Incentive_commercial}_{r,t-1} \text{ Incentive_feasibility_study}_{r,t-1} \text{ Incentive_technical_assistance}_{r,t-1} \text{ Reg_subsidies}_{r,t-1} \text{ Reg_service}_{r,t-1}$$

$$NP_{r,t} = \text{International_leader}_{r,t}, \text{ Experience}_{r,t}, \text{ Leader}_{r,t}, \text{ Innovation}_{r,t}, \text{ GDP}_{r,t}, \text{ North}_{r,t}, \text{ Advanced}_{r,t}, \text{ Made_italy}_r$$

For a detailed description and definition of policy and non-policy variables see Table 1.

Insert Table 1 about here

The dataset employed in the empirical analysis combines several sources of data:

- 1) Reprint provides a census of outward and inward FDI in Italy since 1986. It is updated yearly, and it is sponsored by the Italian Institute for Foreign Trade.
- 2) Four Overseas Trade Ministry annual reports and annual publications collect information on Italian industrial policy between 2002 and 2006.
- 3) Simest and Finest public agencies' balance sheets provide information about the assignment of financial incentives (i.e., equity participation and venture capital funds) to Italian firms throughout the period 2003-2007.

- 4) Istat census data report structural characteristics of the Italian regions in 2001, and annual Istat publications provide data on Italian export activities between 2000 and 2006.
- 5) The EP-CESPRI database, developed by Cespri Università Bocconi, provides information on patents applied for at the European Patent Office (EPO) since 1978. The EP-CESPRI database is based upon applications published on a regular basis by the Espacenet Bulletin and is updated yearly.

The data sources are detailed in Table 2 .

Insert table 2 about here

4. ECONOMETRIC FINDINGS

This section presents the estimates of the proposed models for the degree of internationalization of Italian regions between 2000 and 2006 (Table 3).

Insert table 3 about here

Among the different policy instruments, financial support through equity participation and regional incentive to internationalization seem to be most effective showing a positive effect on regional internationalization level in both models (Equity_Participation shows a coefficient that is positive and significantly different from zero at $p < 0.01$; Regional_incentive shows a coefficient that is positive and significantly different from zero at $p < 0.01$ in Model 2).

The resources spent with information provision and technical assistance through regional organised offices do not seem to have had a direct and significant effect on the level of regional FDI projects. Regional_service appears as positive and significant only for Model 2.

The remaining instruments have a non significant coefficient in both Model 1 and 2.

As far as the regions' structural variables are concerned, both the presence of leader firms and of foreign firms promote international expansion of regions.

As far as the behavioural variables are concerned, innovation seems to promote regional internationalization.

5. CONCLUSION AND POLICY IMPLICATIONS

The evaluation of public intervention has recently been the subject of an increasing number of studies. Moreover in the developed and developing countries, a number of policy changes occurred and a number of measures have been launched by the Governments to encourage outward FDI flows (UNCTAD, 2003). So far there has been no systematic discussion or quantification of Home country measures to promote outward FDI. Our survey through the existing literature reveals that not only Home country measures to promote outward FDI are much less discussed than other factors affecting FDI, as also their effectiveness and efficiency have never been studied in detail.

The paper aims at filling this gap and it offers an empirical contribution in order to discuss the effectiveness of different public measures to firms' O-FDI. In particular we construct an original longitudinal dataset on Home country measures to promote outward FDI granted by the Italian Government. The novelty of our study is in the emphasis on the role played by public policy tools in determining the degree of internationalization of a region. In particular, our study examines the effect of different types of public measures addressing firms' internationalization and provides useful suggestions to policy makers for the design of appropriate incentives and the improvement of existing ones.

Despite the limited extension of the time frame in our sample, the empirical findings are in line with the theoretical hypotheses: public incentives are key for promoting outward investments, and they have to be seen in the broader context of the determinants of FDIs. The findings confirm that financial incentives through equity participation and other financial incentives allocated at

regional level may have helped firms overcome their financial constraints and compensate for uncertainty and risk related to the foreign context. The non-financial services do not seem to be have had an important and significant effect.

There is no need to point out that the results should be taken with proper care, since we simply do not know what would have happened had the aid not existed. Additionally, we should also take care when considering the possible crowding-out effects that the Home country measures to promote outward FDI may have had on private initiatives.

Concluding, our results support Te Velde (2007), Unctad (2001) and Samah (2003) position that the influence of Home country measures to promote outward FDI can be increased through tailor-made approaches and regional and country targeting; on the formulation and administration of measures, as well as the extent to which they complement host country measures and firm level barriers for O-FDI.

Bearing in mind the novelty of the subject, the future agenda could expand the analysis on the effectiveness of outward public policies. First of all, the effectiveness of Home country measures to promote outward FDI can, and does, vary from industry to industry. We therefore suggest that future investigations should take into account inter-industry differences. Secondly, this paper demonstrates the effectiveness of outward investment incentives but does not compare social costs and benefits. The finding that outward policy tools are effective by no means implies that they raise the home country's social welfare. It is also important to note the importance of incorporating both intended effects such as additionality and unintentional effects such as displacement (Lenihan, 2004) and indirect effects.

In conclusion, the findings of this paper seem to justify greater research efforts in the area of incentive for outward internationalization and there is ample scope for further research on measuring and assessing the effectiveness of public measures towards O-FDI.

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	Description
Policy variables	
Equity_participation _{r,t}	Total amount (€) of financial incentives (i.e., acquisition of equity interests in Italian firms' direct investment abroad) in year t and region r
Venture_capital_funds _{r,t}	Total amount (€) of venture capital funds set up by the Government to support investments in areas such as the Far East, Eastern Europe, the Balkans, Africa, the Middle East and Central and South America in year t and region r
Incentive_commercial _{r,t-1}	Total amount (€) of financial incentives for the creation of permanent commercial structures abroad in year t-1 and region r
Incentive_feasibility_study _{r,t-1}	Total amount (€) of advice in feasibility studies in year t-1 and region r
Incentive_technical_assistance _{r,t-1}	Total amount (€) of advice in technical assistance in year t-1 and region r
Reg_subsidies _{r,t-1}	Total amount (€) of regional incentive to FDI and export in year t-1 and region r
Reg_service _{r,t-1}	Dummy variable equal to 1 in the region r in year t-1 if public information service is provided
Non Policy variables (Structural and behavioral)	
International_leader _{r,t}	Ratio of the number of employees in foreign affiliates of firms with over 250 employees in region r in year t and the number of employees in the leader firms located in the same region in 2001
Experience _{r,t}	Number of years elapsing from when region r reached 50% of the number of employees engaged in foreign activities in year t
Leader _r	Incidence of firms with more than 250 employees on the total number of firms in the region r in 2001
Innovation _{r,t-2}	Number of patents in region r in year t
GDP _{r,t}	Gross domestic product in region r and year t
North _r	Dummy variable equal to 1 if the region r is located in Northern of Italy
Advanced	Ratio of the number of firms in advanced industries in region r and the number of firms located in the same region in 2001
Made_italy	Ratio of the number of firms in made in Italy industries in region r and the number of firms located in the same region in 2001

Table 1: Description of the independent variables

	Source	Laws	Years
Dependent Variables			
Degree_Int_number	REPRINT Database		2003-2007
Degree_Int_turnover	REPRINT Database		2003-2007
Explanatory Variables			
Policy variables			
Equity_participation	SIMEST and FINEST balance sheets	Law 100/90 Law Decree 143/98 Law 35/05 Law 19/91	2002-2006
Venture_capital_fund	Ministero Commercio Internazionale, Direzione Generale per le Politiche per l'Internazionalizzazione	Venture Capital Funds	2002-2006
Incentive_commercial	Ministero Commercio Internazionale su dati SIMEST	Law 394/81	2002-2006
Incentive_feasibility_study	Osservatorio Economico Ministero Commercio Internazionale su dati SIMEST	Law Decree 143/98 Law 35/05 Ministerial Decree 136/00	2002-2006
Incentive_technical_assistance	Osservatorio Economico Ministero Commercio Internazionale su dati SIMEST	Law Decree 143/98 Law 35/05 Ministerial Decree 136/00	2002-2006
Regional_incentive	Elaborazioni MET su dati Ministero delle Attività Produttive	Regional Law	2002-2006
Regional_service	Region desk	Regional_Law	2002-2006
Non Policy variables (Structural and behavioral)			
International_leader	REPRINT Database		2003-2007
Experience	REPRINT Database		2000-2007
Leader	ISTAT Census Data		2001
Innovation	EP-Cespri Database		2001-2005
GDP	ISTAT		2003-2007
North			2003-2007
Advanced	ISAT		2001
Made_italy	ISTAT		2001

Table 2: Sources of data for dependent and explanatory variables

	MODEL 1		MODEL 2	
	Degree_Int_turnover		Degree_Int_number	
	Coeff.	Std. Err.	Coeff.	Std. Err.
Policy Variables				
Equity_participation	0.0020***	(0.0004)	1.83e-05***	(4.22e-06)
Venture_capital_fund	-0.0009	(0.0010)	-2.92e-06	(1.06e-05)
Incentive_commercial	0.0007	(0.0005)	-7.77e-06	(5.53e-06)
Incentive_feasibility_study	0.0062	(0.0044)	-2.86e-05	(4.48e-05)
Incentive_technical_assistance	0.0023	(0.0078)	3.87e-05	(7.80e-05)
Regional_incentive	0.0004	(0.0015)	5.96e-05***	(1.63e-05)
Regional_service	-0.0036	(0.0072)	0.0002**	(0.0008)
Non Policy Variables				
International_leader	0.1080***	(0.0331)	0.0016**	(0.0006)
Experience	0.0014	(0.0014)	1.25e-05	(2.05e-05)
Leader	232.4000***	(53.9000)	3.1750**	(1.4230)
Innovation	1.68e-05*	(9.51e-06)	2.10e-07*	(1.19e-07)
GDP	-2.75e-06	(2.82e-06)	5.97e-08	(6.68e-08)
North	-0.0318	(0.0252)	0.0015**	(0.0006)
Advanced	-1.49e-06**	(7.39e-07)	-1.36e-08	(1.18e-08)
Made_italy	-9.98e-08	(2.71e-07)	1.40e-08**	(7.11e-09)
Constant	-0.0519	(0.0406)	-0.00184*	(0.000982)
		Number of observ. = 100	Number of observ. = 100	
		Number of groups = 20	Number of groups = 20	
		P>chi2 = 0.000	P>chi2 = 0.000	
		R-sq: Within = 0.6206	R-sq: Within = 0.4005	
		Between = 0.9199	Between = 0.7201	
		Overall = 0.9173	Overall = 0.7026	
		Sigma_u = 0.0008	Sigma_u = 0.0231	
		Sigma_e = 0.0002	Sigma_e = 0.0163	
		Rho = 0.9520	Rho = 0.6672	

Table 3: Results of the random effects GLS regression

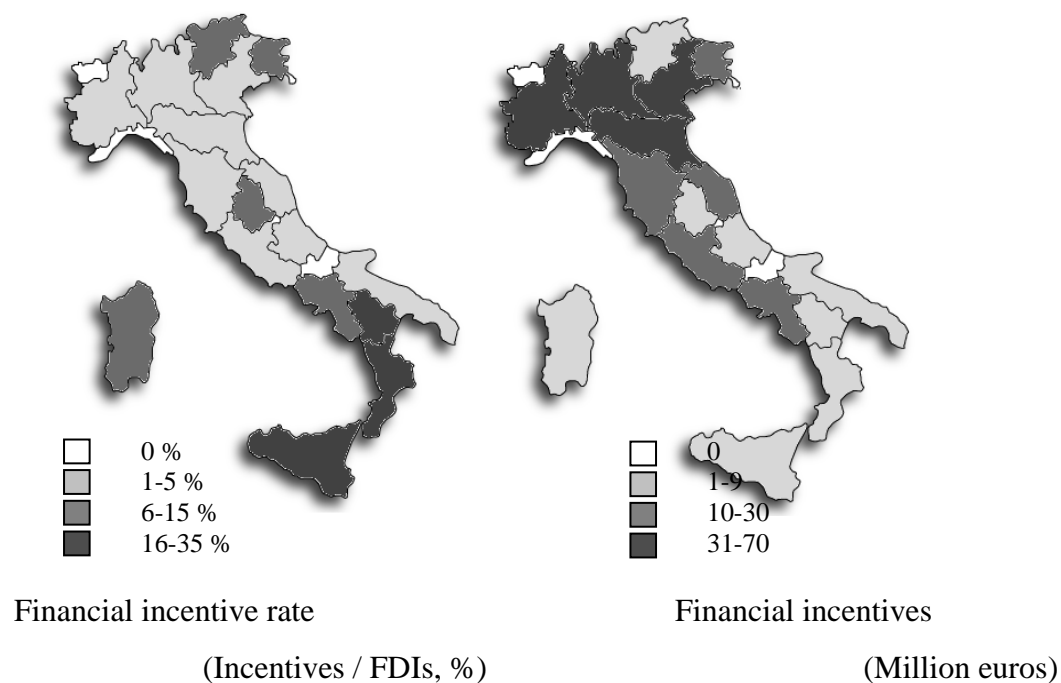


Figure 1: Public incentive rate and level at the regional level, 2006

¹ An extensive literature (surveyed in Dunning and Lundan, 2008) documents the presence of spillovers: over time, domestic MNEs create new jobs, raise the level of wages and carry out R&D activities.

² For a thorough review of the literature concerning the determinants of FDI, see Dunning and Lundan (2008) and Mariotti et al., (2008).

³ Simest is the largest institution for Italian businesses abroad, and it administers various forms of public support for the internationalization of the Italian economy. Simest was set up as a limited company in 1990 (Law 100/1990). It is a public-private partnership controlled by the Ministry of International Trade and Commerce (76%), while private shareholders include banks and industrial business organisations. The

primary objective of Simest is to promote the competitiveness of the Italian industry and the service sector by providing funding and advice to business outward investments.

⁴ Finest was founded in 1992 pursuant to Italian National Law 19/1991 as an investment company that promotes economic co-operation with Eastern European countries. The main shareholders of Finest are the Regional Governments of Friuli Venezia Giulia and Veneto, the Autonomous Province of Trento (local public administrations of North East of Italy) and Simest. Finest provides its assistance to all companies whose headquarters are located in north eastern Italy (i.e., Friuli Venezia Giulia, Veneto and Trentino Alto Adige regions). Finest collaborates with companies to create or expand their businesses in foreign countries or to set up industrial and commercial relations with firms in target areas.